REMARKS/ARGUMENTS

In the Office Action dated October 19, 2006, Claims 15-19 and 21-25 are pending and elected, of which Claims 15 and 21 are independent. Claims 15-19 and 21-25 are rejected under 35 U.S.C. § 103(a) on the sole basis of being unpatentable over US 2004/0195319 (Forster) in view of the general description of a UHF tag in the present application (hereinafter the "Patent Disclosure") and further in view of U.S. Patent No. 6,067,475 (Graves, et al.).

Applicant respectfully requests reconsideration in light of the following remarks.

Independent Claim 15 is directed to a near field coupling device and recites a plurality of lines electrically interconnected in parallel, a ground plane spaced away from the plurality of lines, and a terminating resistor coupled to the lines, the terminating resistor selected not to match a characteristic impedance of the plurality of lines.

Forster describes an RFID device detection system that includes a proximity locator **12** having a pair of parallel transmission lines **114, 116** (Figure 9). The Office Action acknowledges that Forster fails to disclose a ground plane and a terminating resistor that is selected not to match a characteristic impedance of the lines of the near field coupling device, as set forth in Claim 15; however, the Office Action asserts that it would have been obvious to modify Forster to include these features. In particular, the Office Action relies on the description of the prior art set forth in the background of the present application as teaching a ground plane, and relies on Graves, et al. as teaching a terminating resistor as claimed.

Applicant disagrees on the basis that it would not have been obvious to modify Forster to achieve the claimed invention, even in light of Graves, et al. and the admitted prior art. The prior art fails to teach the claimed invention for at least two reasons. First, regarding the ground plane of Claim 15, the Office Action relies solely on the disclosure set forth in the background of the present application. The present application does illustrate (Figure 1) a conventional microstrip that includes a ground plane **9**; however, the prior art disclosed in the present application does not provide any motivation for modifying Forster as suggested in the Office Action. In this regard, the Office Action states that it would have been obvious to modify Forster to include the ground plane "in order to keep the insertion loss, mismatch, undesirable coupling among elements to a minimum." However, the Office Action does not refer to any reference for this motivation, and neither the alleged Patent Disclosure nor Forster provides this motivation for

modifying Forster to include the ground plane. Nor does the Office Action refer to any reference that indicates how the insertion loss, mismatch, and undesirable coupling among elements are kept to a minimum by modifying Forster to include the ground plane of the alleged Patent Disclosure. Since neither the alleged Patent Disclosure nor Forster provides any motivation for modifying Forster to include the ground plane **9** of the conventional microstrip illustrated in Figure 1 of the present application, it would not have been obvious to modify Forster in this way to achieve the claimed invention without improperly relying on hindsight.

Regarding the second proposed modification of Forster, the Office Action relies on Graves, et al. as teaching a terminating resistor as claimed. Forster refers to a terminating resistor **32** that "functions as a load, restricting the power reflected back to the reader, which can cause a malfunction or in certain cases damage to the reader circuitry. . . . The value of the resistor may be chosen in combination with the characteristic impedance of the transmission line so that the structure, when measured via the matching network, provides a good impedance match." (Paragraph 0053). Graves, et al., on the other hand, discloses a "dual directional coupler **58** for enabling precise detection of forward and reflected microwave power" (col. 6, lines 29-31). The forward and reflected power detection capability of Graves, et al. is necessary for the control functions in microwave thermal therapy of bodily tissue, i.e., to shut down upon detection of reflected power greater than a predetermined threshold, provide automatic frequency adjustment based on reflected power measurements, and dynamically adjust the microwave antenna impedance according to reflected power measurements. A terminating resistor **92** of Graves, et al. "is intentionally chosen to present an impedance mismatch to compensate for degradation effects associated with manufacturing variations in the coupling circuit." (Col. 6, lines 49-55).

Graves, et al. provides a distinctly different device and function and is not analogous to the art of Forster, instead disclosing a dual directionality of the coupler and a distinctly different use of the coupler. Moreover, Graves, et al. does not provide any motivation for modifying Forster as suggested in the Office Action. In this regard, the Office Action states that it would have been obvious to modify Forster in light of Graves, et al. "in order to obtain a design that would result in optimal directivity and therefore precision in measuring reflected power."

However, this alleged motivation is not applicable to Forster, which is not directed to a dual directional coupler and which does not provide any teaching or suggestion for such a device.

Thus, for each of the foregoing reasons, the cited references cannot be combined to achieve the invention of Claim 15 and dependent Claims 16-19.

Further, even if combined, the references do not teach every element of the claimed invention. In this regard, Claim 15 recites that the terminating resistor is "selected not to match a characteristic impedance of the plurality of lines." For example, as described in the present application, the near field coupler **30** can operate as a one-half wavelength unmatched transmission line with a **15** ohm characteristic impedance that is terminated by a **50** ohm terminating resistor **8** so that signals generated by the transceiver **42** passing along the transmission line generate an extremely local near field effect emanating from the transmission line edges that couples with a transponder **1** passing through the transponder operating region. *See* paragraph [0034]. The Office Action asserts that the resistor **92** of Graves, et al. corresponds to the terminating resistor of Claim 15; however, the mismatched resistor **92** of Graves, et al. does not provide the same "mismatch" set forth in Claim 15. That is, the terminating resistor of Claim 15 is selected to not match a characteristic impedance of a plurality of lines coupled to the resistor. On the other hand, Graves, et al. states that the resistor **92** is chosen to present a mismatch with transmission line **70b**, not the conductive traces **82** to which the resistor is coupled. Thus, even in combination, the cited references do not teach or suggest each of the features of Claim 15 and dependent Claims 16-19.

Independent Claim 21 is directed to a near field coupler for communication with a transponder located in a transponder operating region. Similar to Claim 15, the near field coupler includes a plurality of lines coupled to a terminating resistor selected not to match a characteristic impedance of the plurality of lines. The cited references fail to disclose this feature for the same reasons described above in connection with Claim 15. Further, Claim 21 recites that the near field coupler receives an RF communication signal and is "configured to produce an array of spaced near field concentrations responsive to the RF communication signal, the spacing of said near field concentrations along a predetermined direction being significantly less than a smallest dimension of said transponder in said predetermined direction such that said transponder overlaps and is excited by a plurality of said field components when located in said transponder

operating region." For example, as illustrated in Figure 5a of the present application, the near field coupler **30** provides a transponder operating region **C** with narrow null gaps in the region, as illustrated by **d**, **e**, **f**, and **g**, and the spacing of the near field concentrations in the direction **L** is significantly less than the smallest dimension of the RFID transponder **1** in the direction **L** so that the transponder overlaps and is excited by a plurality of the field components when located in the transponder operating region **C**. *See* paragraph 35. The Office Action relies on Forster in this regard, and cites Figures 1-10 and paragraphs [0083] and [0084] of Forster. However, neither the drawings nor the cited paragraphs of Forster teach or suggest the recited features. In particular, Forster does not illustrate any array of spaced near field concentrations and, moreover, does not teach that the spacing of the near field concentrations along a predetermined direction are significantly less than a smallest dimension of the transponder in the predetermined direction so that the transponder overlaps and is excited by a plurality of the field components when located in the transponder operating region. To the contrary, Forster states in paragraph [0084] that RFID devices can be read when swiped across the surface **110** formed by the transmission line structure **17**. Forster does not teach or suggest that a spacing of near field concentrations is so small relative to the RFID devices that a single RFID device overlaps and is excited by multiple field components. Accordingly, Applicant asserts that Claim 21, and dependent Claims 22-25, are allowable for this additional reason, in addition to those set forth above in connection with Claim 15.

For the above reasons, Applicant submits that all of the pending Claims 15-19 and 21-25 are allowable.

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CONCLUSIONS

In view of the remarks presented above, Applicant submits that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicant's undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

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